**Vocabulary Words Related to Relational Databases, SQL and SQLite3:**

1. Relational Database: This is a store of data organized in tables made of columns and rows, and they hold relationships between these tables.
2. SQL: This stands for Structured Query Language, a programming language designed to manage or control data stored in relational databases
3. Table: A collection of data stored in rows and columns
4. Column: A set of data values under a name/type
5. Row: A row is a single record in a table, runs horizontally (left to right)
6. Keys: There are two types of keys
   1. Primary Key – A column that serves a unique identifier for the rows in the table
   2. Foreign Key – A column that contains the primary key to another table
7. Data Types: There are 4 most commonly used data types:
   1. INTERGER – A positive or negative whole number
   2. TEXT – A text string. Example: “hello world” or “LKJH014456”
   3. DATE – The date formatted as YYYY-MM-DD. Example: 2016-04-25
   4. REAL – A decimal value, also called a float/floating point. Example: 93.3 or 100.45
8. Statement: A statement is text that the database recognizes as a valid command, and they always end in a semicolon (;). Example: SELECT \* FROM database
9. Clause: A clause performs specific tasks in SQL, and are written with capital letters. Examples: SELECT, FROM, CREATE, INSERT
10. Parameter: A parameter is a list of columns, data types, or values that are passed to a clause as an argument. Example: CREATE TABLE table\_name *(column\_1\_data\_type, column\_2\_data\_type);*
11. Statements: There are many statements, but here are a few of them with definitions
    1. SELECT – Used to fetch data from a database: Example: SELECT \* FROM mytable (Selects everything from mytable), SELECT name FROM mycustomers (Selects the names from mycustomers)
    2. FROM – Defines where data is to be found. Example: SELECT \* *FROM* mytable
    3. CREATE TABLE – Allows creation of a new table in a database: CREATE TABLE celebrities (name TEXT);
    4. WHERE – Filters the results of the query based on conditions. Example: SELECT name FROM namelist WHERE name = ‘Jimmy Johns’;
    5. INSERT – Inserts a new row into a table. Example: INSERT INTO celebrities (name), VALUES (‘Jimmy Johns’);
    6. ALTER TABLE – Adds a new column to a table. Example: ALTER TABLE celebrities ADD COLUMN email TEXT;
    7. UPDATE – Edits a row in a table. Example: UPDATE celebrities SET email = ‘california’ WHERE id = 4;
    8. DELETE – Deletes one or more rows from a table. Example: DELETE FROM celebrities WHERE email IS NULL;
12. Constraints: These add information about how a column can be used, and are invoked after specifying the data type for a column.
    1. PRIMARY KEY – These can be used to uniquely identify the row
    2. UNIQUE - These have a different value for every row
    3. NOT NULL – These columns will reject rows that are NULL
    4. DEFAULT – These columns take a addition argument that will be assigned to a new row if it does not specify a value for that column. Example: award\_name TEXT DEFAULT ‘Nothing yet’
13. Filters: These are ways to make the information more specific when querying.
    1. AS – Renames a column or table
    2. LIKE and BETWEEN – Special operators
    3. AND and OR – Combines multiple conditions
    4. ORDER BY – Sorts the result
    5. LIMIT – Specifies the maximum number of rows that it will return
    6. CASE – Creates different outputs
    7. LIKE – Compares similar values. Example: SELECT \* FROM movies WHERE name LIKE ‘Ha\_py’, this will then find any titles that start with Ha and end with py
    8. LIKE Extended – The percent character (%) can be used to narrow down less. Example: SELECT \* FROM movies WHERE name LIKE ‘A%’, and that will find everything that starts with A, and SELECT \* FROM movies WHERE name LIKE ‘%man’, this will find movies that end with man.
    9. DISTINT – This will only select the first new item. Example: Tools contains Hammer, Nails, Nails, Nails. SELECT tools FROM inventory will return all items (Hammer, Nails, Nails, Nails), but SELECT DISTINT tools FROM inventory will return all first items distinct items (Hammer, Nails)
14. Aggregate Functions: These are calculations performed on multiple rows of a table
    1. COUNT() – Count the number of rows
    2. SUM() – The sum of the values in a column
    3. MAX() / MIN() – The largest/smallest value
    4. AVG() – The average of the values in a column
    5. ROUND() – Round the values in the column
15. SQLite: SQLite is a database engine that allows users to interact with a relational database, where the database is stored in a single file